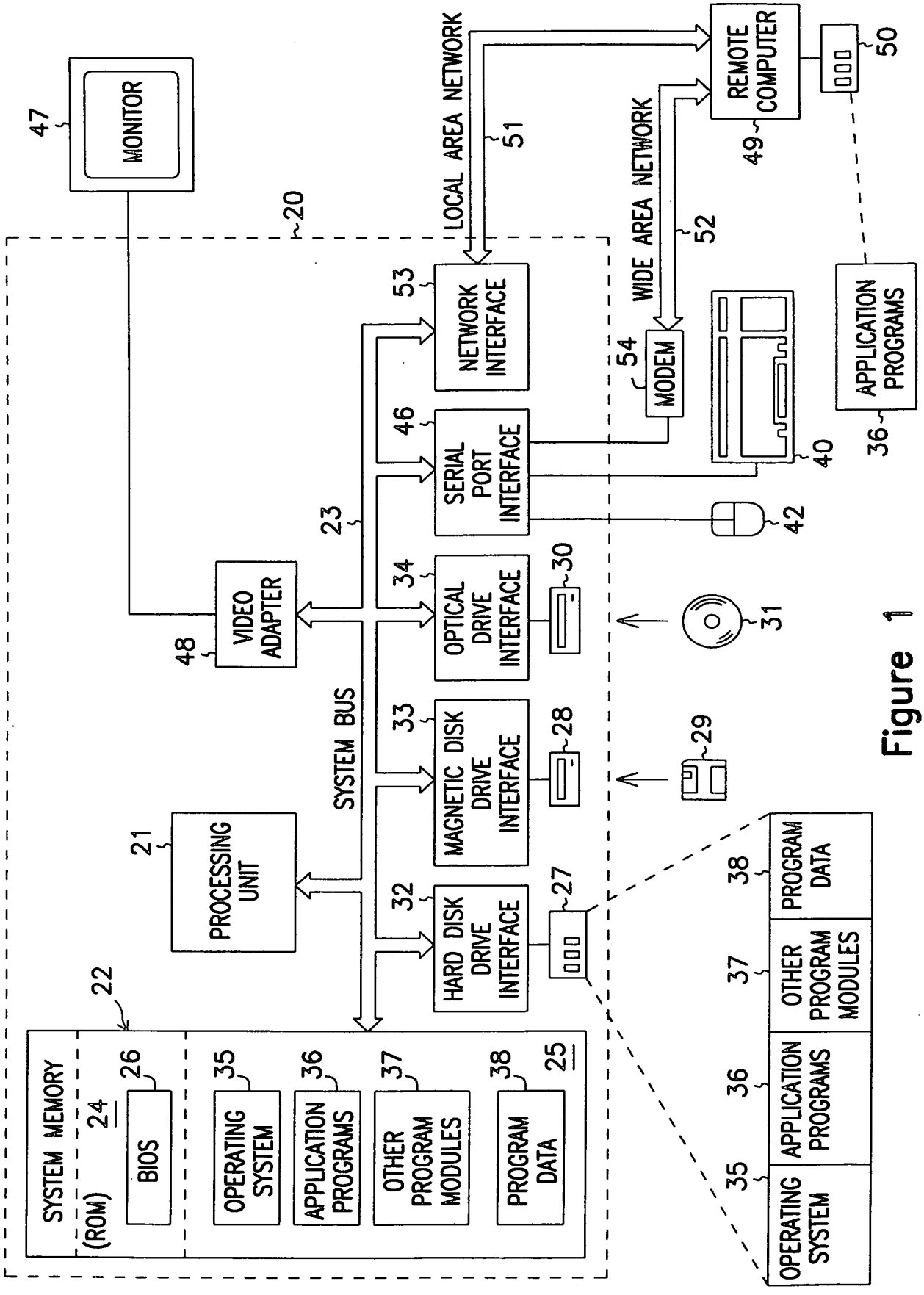

MONITOR
47
20
LOCAL AREA NETWORK
51
REMOTE COMPUTER
49
50
WIDE AREA NETWORK
52
NETWORK INTERFACE
53
MODEM
54
APPLICATION PROGRAMS
36
40
SERIAL PORT INTERFACE
46
42
23
VIDEO ADAPTER
48
OPTICAL DRIVE INTERFACE
34
30
31
SYSTEM BUS
MAGNETIC DISK DRIVE INTERFACE
33
28
29
PROCESSING UNIT
21
HARD DISK DRIVE INTERFACE
32
27
22
SYSTEM MEMORY (ROM)
24
BIOS
26
OPERATING SYSTEM
35
APPLICATION PROGRAMS
36
OTHER PROGRAM MODULES
37
PROGRAM DATA
38
25
PROGRAM DATA
38
OTHER PROGRAM MODULES
37
APPLICATION PROGRAMS
36
OPERATING SYSTEM
35

Figure 1

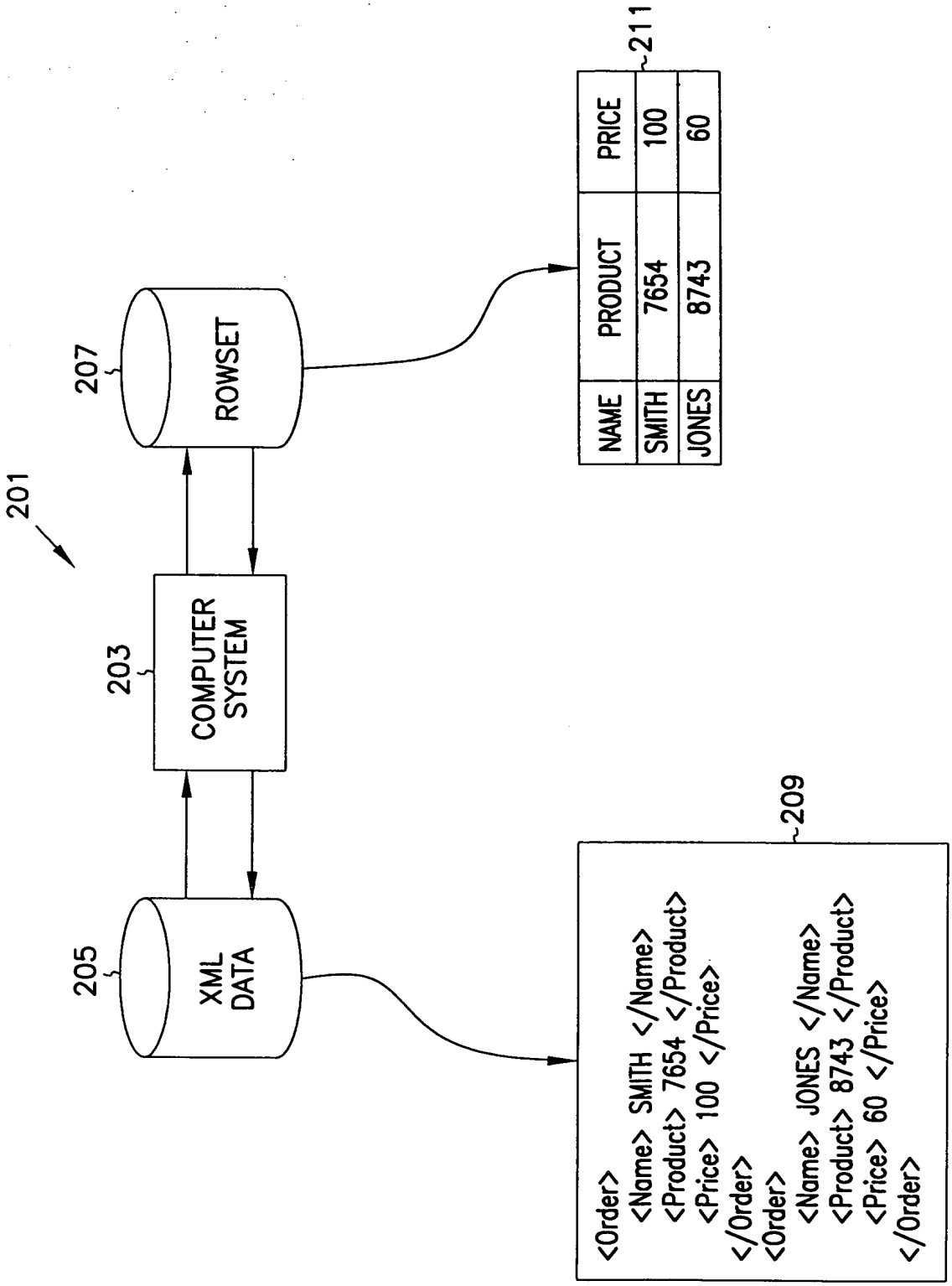

201
203
COMPUTER SYSTEM
205
XML DATA
207
ROWSET
209
<Order>
<Name> SMITH </Name>
<Product> 7654 </Product>
<Price> 100 </Price>
</Order>
<Order>
<Name> JONES </Name>
<Product> 8743 </Product>
<Price> 60 </Price>
</Order>
211
NAME
PRODUCT
PRICE
SMITH
7654
100
JONES
8743
60

Figure 2

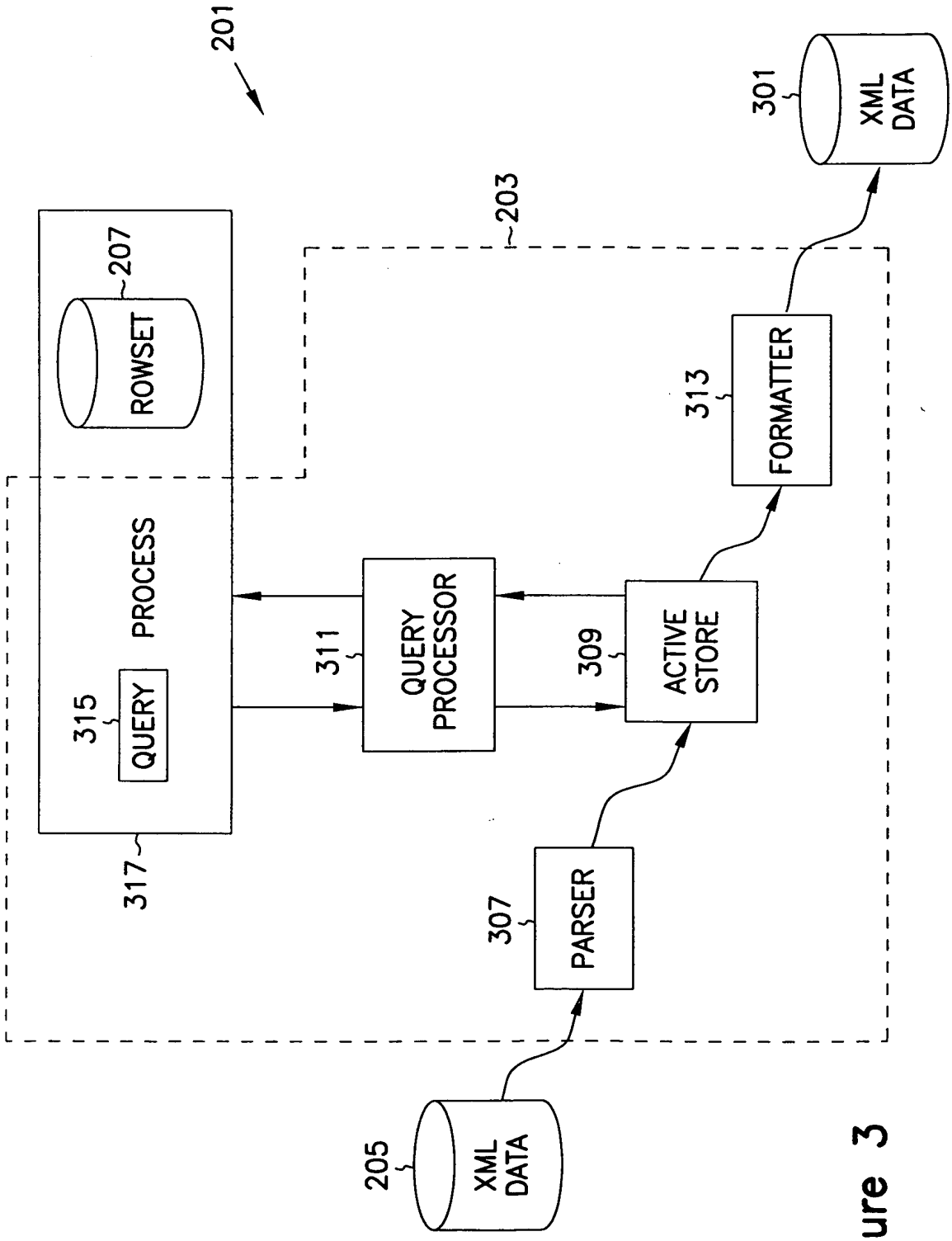
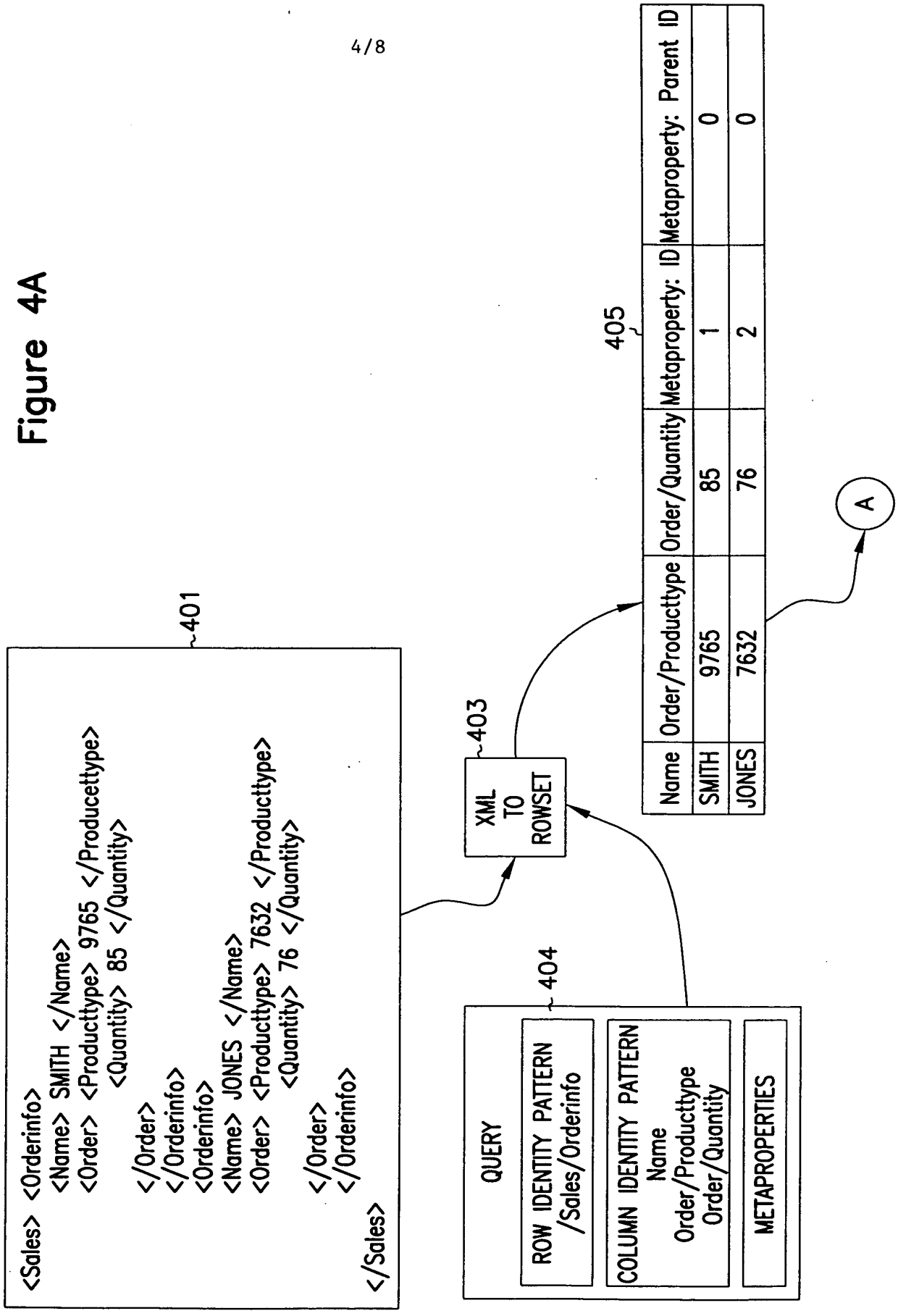
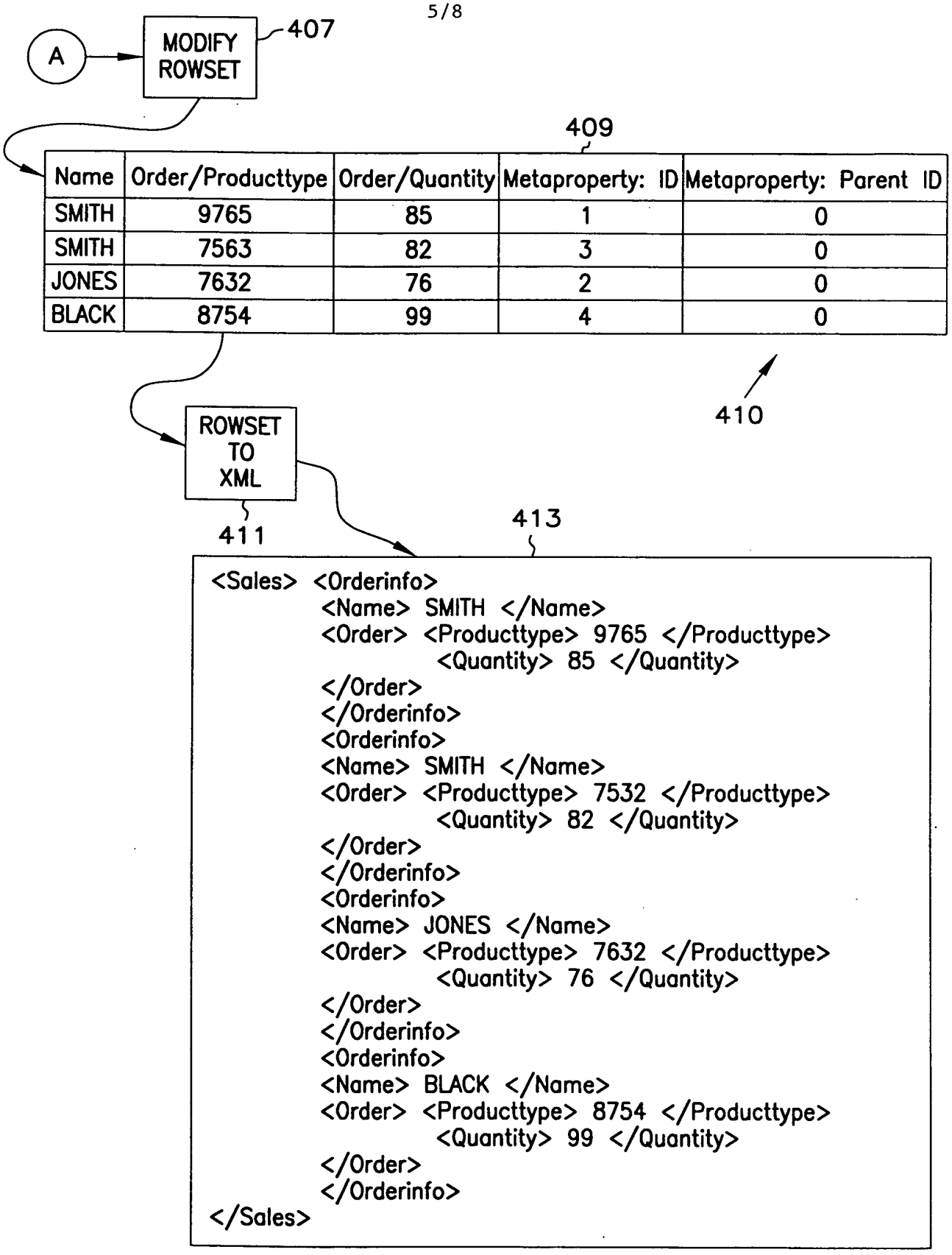

201
301
XML DATA
203
207
ROWSET
313
FORMATTER
PROCESS
315
QUERY
311
QUERY PROCESSOR
309
ACTIVE STORE
317
307
PARSER
205
XML DATA

Figure 3

Figure 4A


<Sales> <Orderinfo>
<Name> SMITH </Name>
<Order> <Producttype> 9765 </Producettype>
<Quantity> 85 </Quantity>
</Order>
</Orderinfo>
<Orderinfo>
<Name> JONES </Name>
<Order> <Producttype> 7632 </Producttype>
<Quantity> 76 </Quantity>
</Order>
</Orderinfo>
</Sales>
401
XML TO ROWSET
403
QUERY
ROW IDENTITY PATTERN /Sales/Orderinfo
COLUMN IDENTITY PATTERN Name Order/Producttype Order/Quantity
METAPROPERTIES
404
405
Name
Order/Producttype
Order/Quantity
Metaproperty: ID
Metaproperty: Parent ID
SMITH
9765
85
1
0
JONES
7632
76
2
0
A


A
MODIFY ROWSET
407
409
Name | Order/Producttype | Order/Quantity | Metaproperty: ID | Metaproperty: Parent ID
SMITH | 9765 | 85 | 1 | 0
SMITH | 7563 | 82 | 3 | 0
JONES | 7632 | 76 | 2 | 0
BLACK | 8754 | 99 | 4 | 0
410
ROWSET TO XML
411
413
<Sales> <Orderinfo>
<Name> SMITH </Name>
<Order> <Producttype> 9765 </Producttype>
<Quantity> 85 </Quantity>
</Order>
</Orderinfo>
<Orderinfo>
<Name> SMITH </Name>
<Order> <Producttype> 7532 </Producttype>
<Quantity> 82 </Quantity>
</Order>
</Orderinfo>
<Orderinfo>
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<Quantity> 76 </Quantity>
</Order>
</Orderinfo>
<Orderinfo>
<Name> BLACK </Name>
<Order> <Producttype> 8754 </Producttype>
<Quantity> 99 </Quantity>
</Order>
</Orderinfo>
</Sales>

Figure 4B

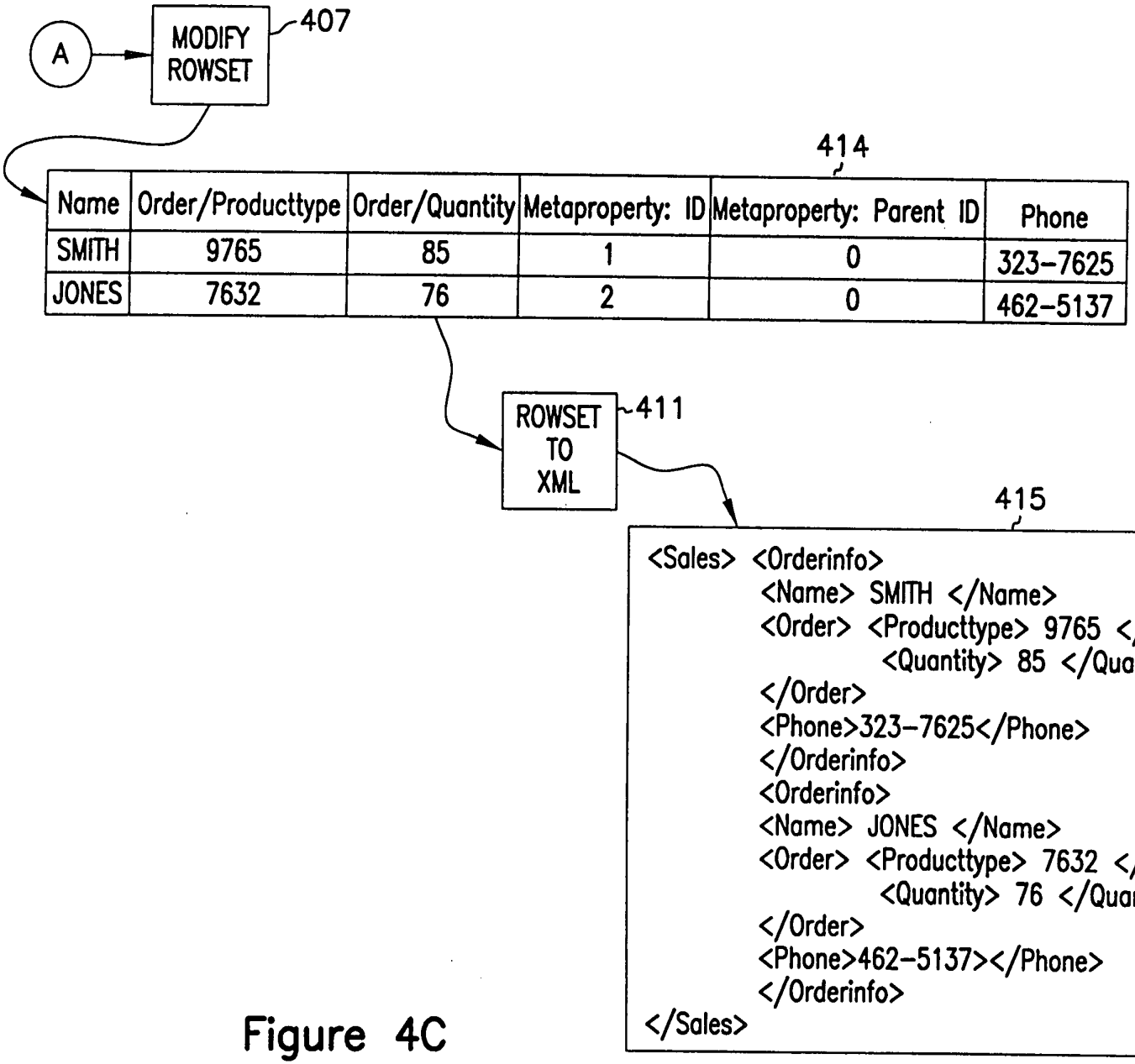


Figure 4C



Docket No.: MSFT-3476
App No.: Not yet assigned
Filed: Herewith
Title: Method And Apparatus For Information Transformation And Exchange In A Relational Database Environment
Inventors: Michael Rys, Christopher Allen Suver, Istvan Cseri
Attorney: Steven H. Meyer
Phone: (215) 568-3100
Sheet 6 of 8

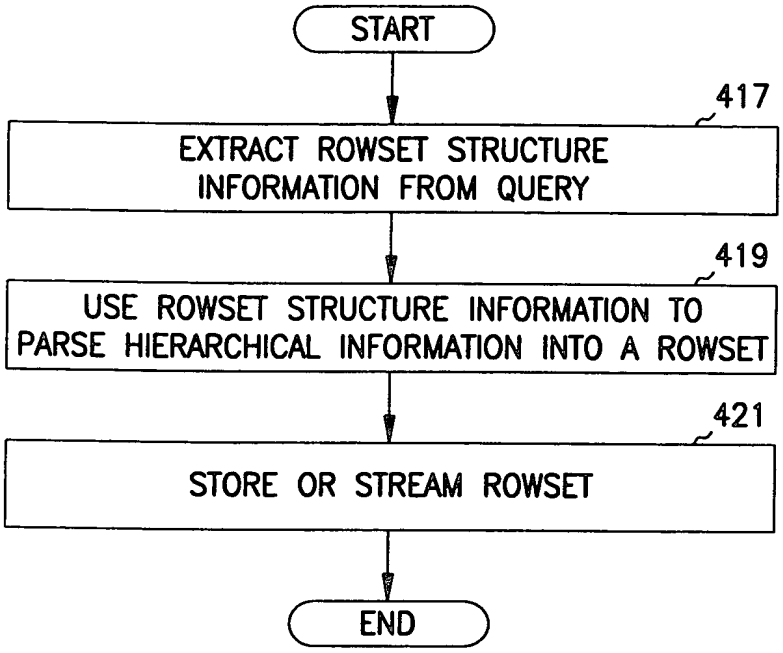


Figure 4D

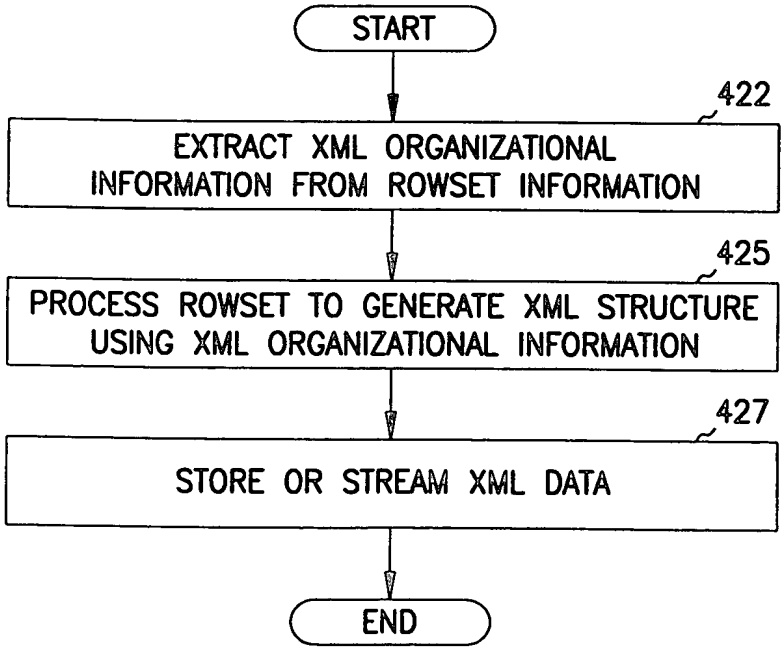


Figure 4E

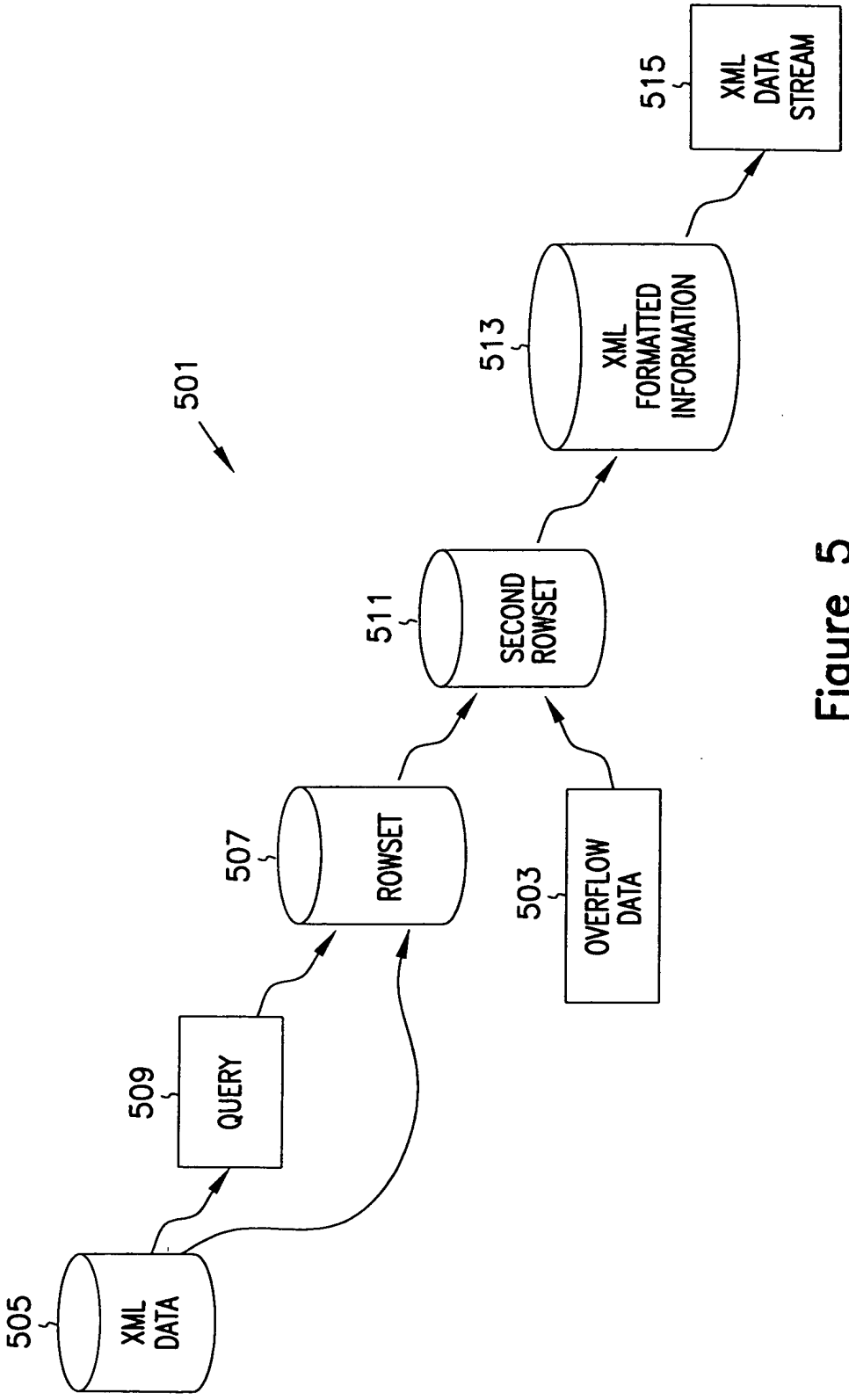
501
505
XML DATA
509
QUERY
507
ROWSET
503
OVERFLOW DATA
511
SECOND ROWSET
513
XML FORMATTED INFORMATION
515
XML DATA STREAM

Figure 5